October 1988

Part 2

LANDSCAPE MANAGEMENT

POCKET GUIDE

Turf and ornamental fertility regimes

Weed identification and control

Turf and tree diseases

Insect pests

"In the bigger picture, isn't what we do really just making sure that one more piece of a customer's American Dream is picture perfect?"

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John Nugent, Lawn Medic, Inc., Bergen, NY

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LANDSCAPE Guide MANAGEMENT

POCKET GUIDE TO

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Compiled by the editors of Landscape Management from articles appearing in the magazine by leading agronomists from across the country.

Look at it this way.

Is there really any other choice in grub control?

CHIPCO® SEVIN® brand SL carbaryl insecticide consistently demonstrates effective control of the most damaging species of white grubs. Plus control of 29 other destructive turf pests—including sod webworms, chinch bugs and bluegrass billbugs. It even provides dependable control of more than 86 insects known to attack trees, shrubs and ornamentals.

And CHIPCO® SEVIN® brand SL carbaryl insecticide gives you all this control at a cost of only about one dollar per 1,000 sq. ft. But the advantages don't stop there. CHIPCO® SEVIN® brand SL carbaryl insecticide is ideal for control of nuisance pests such as ants, fleas, ticks and mosquitoes that thrive around the perimeters of your course. And it's easy to apply. There's no need for special protective clothing, no odor, and play can be resumed as soon as the spray has dried. CHIPCO® SEVIN® brand SL carbaryl insecticide is low in toxicity to fish, and other formulations of SEVIN® brand are used for control of pests on household pets, poultry and some game birds.

When you add it all up, is there really any other choice in grub control?

Chipco® Sevin® SL
Brand Carbaryl Insecticide

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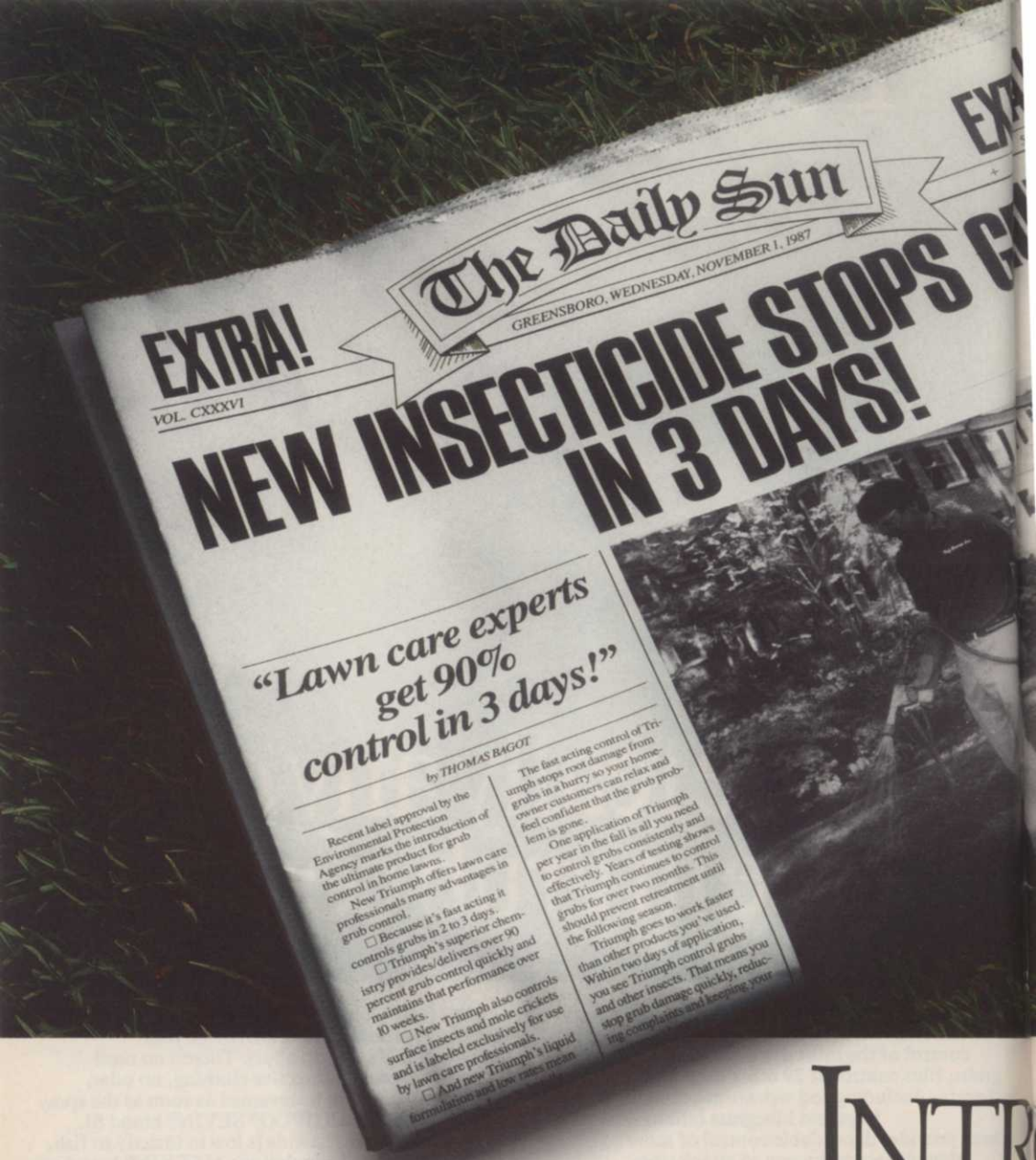
The Daily Sun
GREENSBORO, WEDNESDAY, NOVEMBER 1, 1987
EXTRA!
VOL. CXXXVI
NEW INSECTICIDE STOPS GR
IN 3 DAYS!
"Lawn care experts get 90% control in 3 days!"
by THOMAS BAGOT
Recent label approval by the Environmental Protection Agency marks the introduction of the ultimate product for grub control in home lawns.
New Triumph offers lawn care professionals many advantages in grub control.
☐ Because it's fast acting it controls grubs in 2 to 3 days.
☐ Triumph's superior chemistry provides/delivers over 90 percent grub control quickly and maintains that performance over 10 weeks.
☐ New Triumph also controls surface insects and mole crickets and is labeled exclusively for use by lawn care professionals.
☐ And new Triumph's liquid formulation and low rates mean
The fast acting control of Triumph stops root damage from grubs in a hurry so your homeowner customers can relax and feel confident that the grub problem is gone.
One application of Triumph per year in the fall is all you need to control grubs consistently and effectively. Years of testing shows that Triumph continues to control grubs for over two months. This should prevent retreatment until the following season.
Triumph goes to work faster than other products you've used. Within two days of application, you see Triumph control grubs and other insects. That means you stop grub damage quickly, reducing complaints and keeping your

INTR

THE BEST NEWS TO H

© 1987 CIBA-GEIGY Corporation. CIBA-GEIGY Turf and Ornamental Products, Box 18300, Greensboro, NC 27419. Always read and follow label directions. Triumph is a restricted use pesticide and is not for use on sandy soils. For retail sale to and use only by certified applicators or persons under their direct supervision, and only for those uses covered by the certified applicator certification.

"TEN YEAR UNIVERSITY STUDY SUPPORTS SUPERIOR PERFORMANCE"
by DAVID WOLFE
Over 10 years of testing has proven Triumph's superior control of grubs.
In research data collected from universities, independent research firms, and CIBA-GEIGY research facilities between 1974 and 1986, results showed Triumph's high levels of performance over a 10-week period.
Not only is Triumph's performance superior, it controls grubs faster than any other insecticide.
Triumph kills grubs in just

New Triumph,® from CIBA-GEIGY, provides, on average, over 90% grub control in just two to three days. And there are over 10 years of major university and CIBA-GEIGY trials to prove it.

Triumph offers broad spectrum control of surface feeders like chinch bugs, sod webworms, army worms, chionodes, plus sub-surface mole crickets and annual bluegrass weevils.

Application in late summer to fall can *prevent* turf insect damage by eliminating grubs when they're small, before they can damage roots. And if grub damage appears in spring and summer, application of Triumph quickly stops further damage.

When your customers call you with a grub problem, they want results fast. And that's what they get with Triumph. And, because Triumph is restricted to lawn care applicators, your customers can only get it from you.

ODUCING TRIUMPH.
HIT LAWNS IN YEARS.

TURF FERTILIZATION

John R. Street, Ph.D., Ohio State University

Essential Plant Nutrients Required for Turfgrass Growth and Development

Macronutrients	Typical Percentage in Turfgrass Tissue[a]	Remarks
Nitrogen Phosphorus Potassium	3-6 0.2-0.5 2-3	Commonly used in maintenance fertilization at ratios of 3-1-2 to 5-1-2. Additional P and K (corrective) may be necessary where inherent soil levels are low.
Sulfur	0.2-0.3	Usually only applied where a specific deficiency has been diagnosed. Used in ratios similar to P.
Calcium Magnesium	0.4-0.6 0.2-0.4	Usually only applied where a soil pH adjustment is required or on alkali soils.
Micronutrients	Typical Parts per million (ppm) in Turfgrass Tissue	Remarks
Iron Zinc Molyldenum Manganese Copper Boron Chlorine	40-200 40-120 0.1-0.2 20-150 15-20 5-20 —	Iron is usually used to provide short term green color enhancement. Micronutrients primarily deficient on alkaline soils and/or soils with high phosphorus and/or high micronutrient levels (Mn, Zn, and Cu). Seldom deficient on fine-textured soils.

[a] Elemental percentages will vary to some extent depending on turfgrass species and cultivars, environmental conditions and other variables.

A Comparison of Known Late-Season Fertilization Advantages on Cool- Versus Warm-Season Grasses

Late-Season Effect	Cool-Season Grass Response	Warm-Season Grass Response
Winter hardiness	+ −	−
Rooting	+	
Carbohydrate balance	+	
Fall color retention	+	+
Spring greenup	+	+
Spring mowing reduction	+	+
Turf density	+	+
Weed reduction	+	
Disease reduction	+	
Thatch accumulation	+	

Plus (+) denotes a positive response, negative (−) denotes a negative response, (+ −) denotes a limited response and a blank indicates research information limited.

Nitrogen Treatment Effects on a Merion Kentucky Bluegrass Sod

Nitrogen Rate	Annual Clipping Yield (dry wt.)	Nitrogen Content in Clippings	Sod Strength	Rhizomes
lb/A/month	lb/A	%	lb to tear	grams
0	463	3.0	146	99
15	1807	3.3	188	89
30	2555	3.6	130	120
60	5676	4.5	97	43
120	8447	5.4	67	14

Rieke, P. E. 1975. Turfgrass Fertilization - Nitrogen. 16th Illinois Turfgrass Conference Proceedings. 81-85.

Comparative Turfgrass Responses of Commonly Used Maintenance Nutrients-Nitrogen, Phosphorus and Potassium

	Nutrient		
Turfgrass Response	Nitrogen	Phosphorus	Potassium
Shoot Growth	•		
Shoot Density	•		
Grass Color (Green)	•		
Root Growth	•	•	•
Establishment Rate	•	•	
Recuperative Rate	•		
Wear Tolerance	•		
Heat Stress	•		•
Drought Stress	•		•
Cold Stress	•		•
Disease Incidence	•		•

• Fairly strong relationship based on available research.

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CoRoN now has fourteen major distributors and seven manufacturing locations to serve the lawn care industry. No matter where you are . . . CoRoN is there to meet your liquid nitrogen needs. CoRoN, Controlled Release Nitrogen; promotes even turf growth over a longer period of time, features low burn potential, assures nitrogen efficiency, is storage stable, and has low atmospheric volatility.
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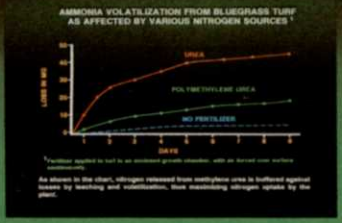
AMMONIA VOLATILIZATION FROM BLUEGRASS TURF AS AFFECTED BY VARIOUS NITROGEN SOURCES †
LOSS IN KG
UREA
POLYMETHYLENE UREA
NO FERTILIZER
DAYS
† Fertilizer applied to turf in an enclosed growth chamber, with air forced over surface continuously.
As shown in the chart, nitrogen released from methylene urea is buffered against losses by leaching and volatilization, thus maximizing nitrogen uptake by the plant.

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Richard Rathjens and Roger Funk, Ph.D., The Davey Co.

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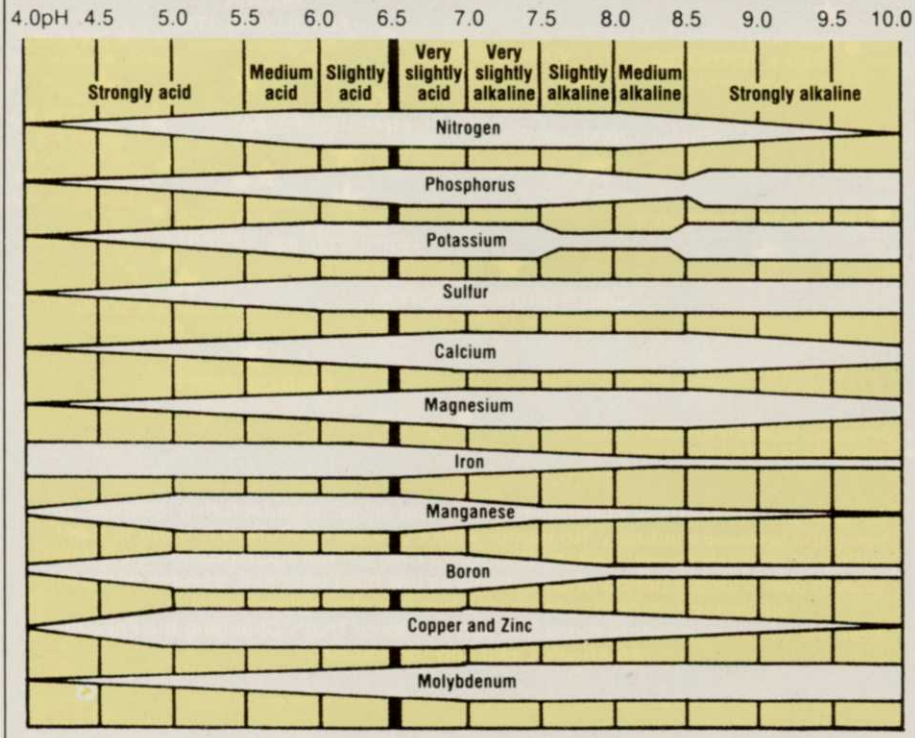

HOW ROUNDUP® HERBICIDE HELPS YOU GET MORE PROFIT OUT OF ...SITE PREPARATION

With one treatment of Roundup® herbicide you can get broad-spectrum control of just about every variety of grass, broadleaf weed and brush you're likely to come across. Just spray the area to be planted, wait 3 days for annuals and 7 or more days for brush – and plant. It's as easy – and can be as profitable – as that.

...LAWN RENOVATION

This is a great way to use Roundup to expand your business. With Roundup, you'll be able to renovate any lawn in 1/12th the time it would take you to do the job mechanically. Just spray; wait 7 days; slice, seed and water well. Fall is the best time for lawn renovations.

...TRIMMING AND EDGING

Hand-weeding and string trimming are a waste of time. With Roundup, you'll get longer-lasting results – and do the job more easily and quickly. And remember, no matter where you use Roundup – around patios, steps, gravel driveways, fencelines, tree rings – you, and your customers, can feel confident because Roundup is biodegradable, odorless and practically non-toxic to wildlife, pets and people. When you put Roundup to work for you, you'll be helping to make your entire operation more professional – more profitable.

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Annual Nitrogen Requirement of Turfgrasses*

Species	Length of Growing Season, Months	Nitrogen per Season lbs./ 1,000 sq. ft.	Variations in Management
Cool-Season:			
sheeps & hard fescue	4- 8	0- 3	low maintenance; roughs
red fescues	4- 8	1- 3	low maintenance to good care
Kentucky bluegrass	5-12	2- 8	lawns, fairways
bentgrasses	4- 8	1- 4	medium care, lawn, fairways
bentgrass, greens	5-12	6-15	clippings removed, forced growth
Warm-Season:			
zoysia	6-10	1- 6	adequate cover
common bermuda	7-12	2- 8	most variable
St. Augustine, bahia	10-12	2- 8	warm areas, lawns
bermudagrass, fairways and tees	5-12	4- 9	good management
bermudagrass, greens	8-12	8-20	may rest over winter

*Adapted from Turf Managers' Handbook by William H. Daniel and Raymond P. Freeborg, published in 1973 by Harvest Publishing Company, New York, N.Y.

"Let Blazon™ take the guesswork out of spraying!"

That's right! All of us have seen it before — that unacceptable area in our fairways or lawn. Just as important, an area where chemicals have been over-applied and a burned condition exists, and that can mean extra work for you. ◐ It's difficult to spray accurately and consistently on golf courses because every golf course is made up of countless slopes, contours, and bends. But with Blazon™ Spray Pattern Indicator you can take the **guesswork** out of spraying, **forever**. ◐ All you do is add Blazon™ right to your spray tank; it's totally compatible with the chemicals you use. It reduces lost time by quickly identifying a clogged nozzle, untreated or overlapped areas. In addition, Blazon™ is temporary and non-staining. ◐ Blazon™ Spray Pattern Indicator is the **new solution** to a never-ending problem. So contact the distributor nearest you for the product that has taken an art and turned it into a science—**"The Professional Solution for Professionals"...**

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PRE-EMERGENCE WEED CONTROL

(COOL-SEASON)

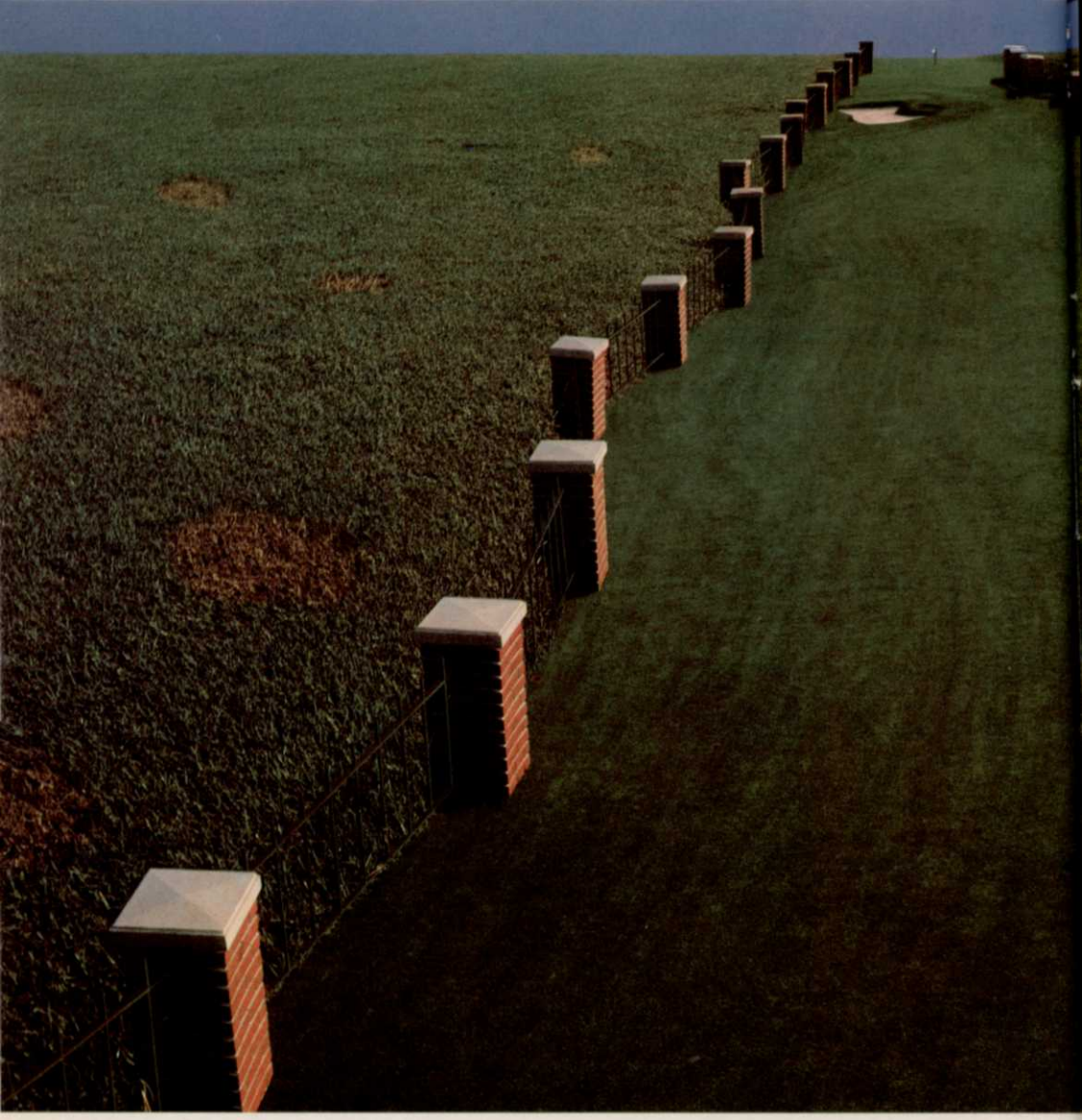
Prasanta C. Bhowmik, Ph.D., University of Massachusetts

Common Name, Trade Names, Formulations, and Rate of Pre-Emergence Herbicides

Common Name	Trade Name(s)	Formulation	Recommended Rate (pound active per acre)	Company
Benefin	Balan	2.5G	2.0-3.0	Elanco
		2.5G	"	Lesco
Benefin & Trifluralin	Team (1:2)	2G	1.5-3.0	Elanco
		1G	"	Lesco
Bensulide	Betasan	4E, 7G, 12.5G	7.5-10.0	ICI
	Pre-san	4E, 7G, 12.5G	"	Sierra
	Lescosan	4E, 7G, 3.6G	"	Lesco
	Betamac Weedgrass Preventer	4E	"	PBI Gordon
		8.5	12.5	Scotts
DCPA	Dacthal	75WP	10.5	Fermenta
	Dacthal	5G	"	Lesco
Oxadiazon	Ronstar	50WP, 2G	3.0-4.0	Rhone Poulenc
Oxadiazon + Bensulide	Goosegrass/ Crabgrass Control	6.56G	7.5	Scotts
Pendimethalin	Lesco Pre-M Weedgrass	60DG,	1.5-3.0	Lesco
	Control Halts	60WDG	"	Scotts
	Crabgrass Turf Weedgrass	2.45G	"	Scotts
	Control	1.71G	"	Scotts
Siduron	Tupersan	50WP	2.0-6.0	Du Pont

Minimum Time Necessary for Reseeding after Various Pre-Emergence Herbicide Application

Common Name	Trade Name(s)	Formulation	Recommended Rate (pound per acre)	Minimum Time Before Reseeding (Weeks)
Benefin	Balan	2.5G	2.0-3.0	6
Benefin & Trifluralin	Team (1:2)	2G	1.5-3.0	6
Bensulide	Betasan	4E, 7G, 12.5G	7.5-10.0	16
DCPA	Dacthal	75WP	10.5	8
Oxadiazon	Ronstar	50WP, 2G	3.0-4.0	16
Oxadiazon + Bensulide	Goosegrass/ Crabgrass Control	6.56G	7.5	16
Pendimethalin	Lesco Pre-M	60DG,	1.5-3.0	16
Siduron	Tuperson	50WP	2.0-6.0	N/A



Keep your fairways
looking great.

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Golfers love to play on beautiful fairways. It's that simple. Which is why it's so important to keep your course in top shape. That means controlling diseases like dollar spot and anthracnose. And that means a program using BAYLETON® fungicide.

BAYLETON is taking care of more and more beautiful fairways because more superintendents are discovering how long it lasts. How much they save in application costs by making fewer applications. And how good it makes them and their fairways look.

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(WARM-SEASON)

Clyde Elmore, Ph.D., University of California-Davis

Directory of Turfgrass Pre-Emergence Herbicides

Common Name	Trade Name	Formulations	Company
Atrazine	Aatrex	80W,90DG,4L	Ciba-Geigy
	Purge	4L	Security
Benefin	Balan	2.5G	Elanco
	2.5 Benefin Granular	2.5G	Lesco
Benefin + oryzalin	XL	2G	Elanco
Benefin + trifluralin	Team	2G	Elanco
Benefin + oxadiazon	Regalstar		
Bensulide	Betasan	2.9E,4E,7G,12.5G	ICI
	Iescosan	4E,7G,12.5G	Lesco
	Pre-san	4E,7G,12.5G	Sierra
	Bensumec 4LF	4E	
Bensulide + Oxadiazon	Goosegrass/Crabgrass Control	5.25G + 1.31G	Scotts
DCPA	Dacthal	75W	Fermenta
	Dacthal	5G	Lesco
Ethofumsate	Prograss	1.5E	Nor-Am
Fenarimol	Rubigan	50W	Elanco
Napropamide	Devrinol	50W,5G	ICI
Oryzalin	Surflan	4AS	Elanco
Pendimethalin	Southern Weedgrass Control	2.5G	Scotts
	Turf Weedgrass Control	1.71G	Scotts
	Weedgrass Control	60DG	Scotts
	Pre-M	60DG	Lesco
	Pendimethalin	60DG	Clean Crop
Pronamide	Kerb	50W	Rohm-Haas
Siduron	Tupersan	50W	Du Pont
Simazine	Princep	80W,90DG,4L,4G	Ciba-Geigy

Tolerance of Warm-Season Turf to Pre-Emergence Herbicides

Herbicide	Bahia	Bermuda	Centipede	St. Augustine	Zoysia
Atrazine	NR	I	T	T	I
Benefin	T	T	T	T	T
Benefin*oryzalin	T	T	T	T	T
Benefin*trifluralin	T	T	T	T	T
Bensulide	T	T	T	T	T
Bensulide*oxadiazon	NR	T	NR	NR	T
DCPA	T	T	T	T	T
Ethofumsate	NR	I	NR	NR	NR
Napropamide	T	T	T	T	TR
Oryzalin	T	T	T	T	T
Oxadiazon	NR	T	NR	T	T
Oxadiazon*benefin	NR	T	NR	NR	T
Pendimethalin	T	T	T	T	T
Pronamide	NR	T	NR	NR	NR
Siduron	NR	NR	NR	NR	NR
Simazine	NR	T	T	T	T

T = tolerant; I = Intermediate tolerance, apply only to dormant grass
NR = Not registered

Tim R. Murphy, University of Georgia

Tolerance of Warm-Season Turfgrasses and Tall Fescue to Pre-Emergence Herbicides

	Turfgrasses					
Herbicide	Bahia	Bermuda	Centipede	St. Augustine	Tall Fescue	Zoysia
Atrazine	NR	I	T	T	NR	I
Benefin	T	T	T	T	T	T
Benefin + Oryzalin	T	T	T	T	T	T
Benefin + Trifluralin	T	T	T	T	T	T
Bensulide	T	T	T	T	T	T
Bensulide + Oxadiazon	NR	T	NR	NR	T	T
DCPA	T	T	T	T	T	T
Ethofumesate	NR	I	NR	NR	NR	NR
Napropamide	T	T	T	T	T	NR
Oryzalin	T	T	T	T	T	T
Oxadiazon	NR	T	NR	T	T	T
Pendimethalin	T	T	T	T	T	T
Pronamide	NR	T	NR	NR	NR	NR
Siduron	NR	NR	NR	NR	T	NR
Simazine	NR	T	T	T	NR	T

T = Tolerant; I = Intermediate tolerance, apply to dormant grass;
NR = Not Registered for use.

Summer Annual Weed Control Ratings for Pre-Emergence Herbicides

Herbicide	Crabgrass spp.	Goosegrass	Sandbur	Prostrate Spurge	Prostrate Knotweed
Atrazine	P	P	P	E	E
Benefin	E	F	F	P	P
Benefin + Oryzalin	E	F-G	G	L	L
Benefin + Trifluralin	L	L	—	—	—
Bensulide	E	P	G	P	G
Bensulide + Oxadiazon	E	G	—	—	—
DCPA	E	F	F	P	G
Napropamide	E	G	G	—	L
Oryzalin	E	F-G	G	L	L
Oxadiazon	G	E	F	P	G
Pendimethalin	E	F-G	G	L	—
Siduron	G	P	—	P	P
Simazine	G	P	—	G	G

E = Excellent, ≥ 90% control. G = Good, 80 to 89% control. F = Fair, 70 to 79% control. P = Poor, <70% control. L = Weed species is listed on the herbicide label, but has not been evaluated by the University of Georgia. — = Weed response is not known.

Winter Annual Weed Control Ratings for Pre-Emergence Herbicides

Herbicide	Annual Bluegrass	Common Chickweed	Henbit	Parsley-Piert	Spurweed	Corn Speedwell
Atrazine	E	E	E	E	E	E
Benefin	E	G	G	P	P	E
Benefin + Oryzalin	E	L	L	—	—	—
Benefin + Trifluralin	L	—	—	—	—	—
Bensulide	F	P	P	E	P	P
DCPA	G	E	F	P	P	E
Ethofumesate	G	L	—	—	—	—
Fenarimol	G	—	—	—	—	—
Napropamide	G	E	P	P	E	E
Oryzalin	G	L	L	—	—	—
Oxadiazon	G	P	P	E	P	G
Pronamide	E	E	P	P	P	E
Pendimethalin	G	L	L	—	—	—
Simazine	E	E	E	G	E	E

E = Excellent, ≥ 90% control. G = Good, 80 to 89% control. F = Fair, 70 to 79% control. P = Poor, <70% control. L = Weed species is listed on the herbicide label, but has not been evaluated by the University of Georgia. — = Weed response is not known.

Handle your grub situation fast, before things get really ugly.

At the very first sign of grub damage, apply DYLOX® insecticide. Nothing kills all species of white grubs faster. Within hours, the grubs are dying and the turf is recovering.

When grubs threaten, act fast. Use DYLOX. And turn an ugly little problem into a lot of beautiful turf.

For more information, contact Mobay Corporation, Specialty Products Group, Box 4913, Kansas City, MO 64120.

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POST-EMERGENCE WEED CONTROL

(COOL-SEASON)

Bill Lewis, Ph.D., North Carolina State University

Susceptibility of Broadleaf Weeds to Turf Herbicides

Weed	Classification of Weed	Response of Weeds to Herbicides: 2, 4-D	Mecoprop (or MCPP)	Dicamba (Banvel)
Bittercress, Hairy	WA	S	I	S
Black Medic	A	R	I	S
Buttercups	WA, B & P	S-I	I	I-R
Carolina Geranium	WA	S	S-I	S
Carpetweed	SA	S	I	S
Catsear	P	S-I	I	S
Chicory	P	S	S	S
Chickweed, Common	WA	R	S-I	S
Chickweed, Mousear	WA, P	I-R	S-I	S
Clover, Hop	WA	I	S	S
Clover, White	P	I	S	S
Dandelion	P	S	S	S
Dichondra	P	S	I	S-I
Dock, Broadleaf & Curly	P	I	I-R	S
Garlic, Wild	P	S-I	R	S-I

A = annual; B = biennial; P = perennial; SA = summer annual; WA = winter annual; S = susceptible; I = intermediately susceptible, good control sometimes with high rates, however a repeat treatment 3 to 4 weeks later each at the standard or reduced rate is usually more effective; R = resistant in most cases.

continued

Susceptibility of Broadleaf Weeds to Turf Herbicides (Cont.)

Weed	Classification of Weed	Response of Weeds to Herbicides: 2, 4-D	Mecoprop (or MCPP)	Dicamba (Banvel)
Ground Ivy	P	I-R	I	S-I
Hawkweed	P	S-I	R	S-I
Healall	P	S	R	S-I
Henbit	WA	I-R	I	S
Knawel	WA	R	I	S
Knotweed, Prostrate	SA	R	I	S
Lespedeza	SA	I-R	S	S
Mallow	SA	I-R	I	S-I
Mugwort	P	I	I-R	S-I
Parsley-piert	WA	R	S-I	S-I
Pennywort, lawn	P	S-I	S-I	S-I
Plantains	P	S	I-R	R
Purslane, Common	SA	I	R	S
Red Sorrel	P	R	S	S
Speedwell, Corn	WA	I-R	I-R	I-R
Spurge, Prostrate	SA	I	I	S
Spurge, Spotted	SA	I-R	S-I	S-I
Spurweed	WA	I	S-I	S
Strawberry, India Mock	P	R	I	S-I
Violet, Johnnyjumpup	WA	I-R	I-R	S-I
Violet, Wild	P	I-R	I-R	S-I
Woodsorrel, Common Yel.	P	R	R	I
Yarrow	P	I	I-R	S

A = annual; B = biennial; P = perennial; SA = summer annual; WA = winter annual; S = susceptible; I = intermediately susceptible, good control sometimes with high rates, however a repeat treatment 3 to 4 weeks later each at the standard or reduced rate is usually more effective; R = resistant in most cases.

Tolerance of Cool-Season Turfgrasses to Post-Emergence Herbicides for Broadleaf and/or Grass Weed Control

Turfgrass	2,4-D	Meco-prop	Di-camba	Brom-omoxy-nil	Di-chlor-prop	Tri-clopyr	DSMA, MSMA, CNA	Bent-azon	Etho-fume-sate	Fenoxaprop
Bentgrass	S-I*	T	I	T	I	S-I	I	T	S	S
Kentucky Bluegrass	T	T	T	T	T	T	I	T	S	T
Tall Fescue	T	T	T	T	T	T	I	T	S	T
Fine Fescue	T	T	T	T	T	I	I	T	S	T
Perennial Ryegrass	T	T	T	T	T	T	T	T	T	T

*I = Intermediately tolerant, use with caution, use at reduced label rates, or minimum label rates; S = sensitive, do not use this herbicide; T = tolerant.

Post-Emergence Herbicides and Package Combinations for Selective Control of Broadleaf Weeds in Cool-Season Turfgrasses

Common Name of Herbicide	Examples of Commercial Products for Professional Applicators
2,4-D	Various
mecoprop	Lescopex, Mecomec
dicamba	Banvel
bromoxynil	Buctril
2,4-D + dicamba	Lesco Eight-One
2,4-D + dichlorprop (2,4-DP)	Weedone DPC, Weedone DPC Amine
2,4-D + mecoprop (MCPP)	Turk Kleen, Lescopar, 2 Plus 2
triclopyr + 2,4-D	Turflon D, Turflon II amine
2,4-D + dichlorprop + dicamba	Super Trimec
2,4-D + mecoprop + dicamba	Trimec Classic, Trex-San, Lesco Three-Way
2,4-D + mecoprop + dichlorprop	Weedestroy Triamine, Weedestroy Tri-ester
MCPA + mecoprop + dicamba	Trimec Encore, Weedestroy Triamine II

"Someone put a cart in the 7th fairway pond. My next-door neighbor bought his kid a set of drums. And I just found out my mother-in-law is moving in. But what really concerns me is Pythium."

There's one sure way to avoid worrying about Pythium. Use Subdue® fungicide. Subdue stops Pythium on contact. Once absorbed by grass roots, Subdue protects your turf against further attack for up to three weeks. So don't let Pythium get you down. Get Subdue. Because you've got other things to worry about. CIBA–GEIGY

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(WARM-SEASON)

Tim R. Murphy, University of Georgia

Common and Trade Names of Turfgrass Post-Emergence Herbicides

Common Name	Company	Trade Name and Formulations[1]
asulam	Rhone-Poulenc	Asulox 3.34 lbs./gal.
atrazine	Security	Purge 4 lbs./gal.
	Ciba-Geigy	Aatrex 4L, 90DG, 80W
bentazon	BASF	Basagram 4 lbs./gal.
bromoxynil	Rhone-Poulenc	Buctril - 2 and 4 lbs./gal.,
		Brominal - 2 and 4 lbs./gal.,
	Lesco	Brominal 2 lbs./gal.
2,4-D	Vertac, Lesco, Fermenta, Others	Numerous trade names and formulations are available.
2,4-D + dicamba	Rhone-Poulenc	Weedone SuperDPro Amine
	Lesco	Eight-One Selective Herbicide
	PBI/Gordon	Phenaban 801
2,4-D + dichlorprop	Rhone-Poulenc	Weedone DPC Amine, Weedone DPC
2,4-D + MCPP	Lesco	Lescopar
	Rhone-Poulenc	Turf Kleen
	PBI/Gordon	Phenomec 2+1
2,4-D + MCPP	PBI/Gordon	Trimec Classic
+ dicamba	Sierra	Trex-san
	Lesco	Three-Way
dicamba	Sandoz	Banvel 4 lbs./gal.
	PBI/Gordon	Dicamba 4
diquat[2]	Valent	Diquat 2 lbs./gal.
DSMA	Vertac, Vineland	Numerous trade names and
	Others	formulations are available.
ethofumesate	Nor-Am	Prograss 1.5EC
glyphosate	Monsanto	Roundup 4 lbs./gal.
imazaquin	Lesco, American Cyanamid	Image 1.5 lbs./gal.
MCPP	Rhone-Poulenc	Turf Herbicide MCPP 2 lbs./gal.
	PBI/Gordon	Mecomec 4 4 lbs./gal.
	Lesco	Lescopex 2.5 lbs./gal.
metribuzin	Mobay	Sencor Turf 75W
MSMA	Fermenta, Platte, Others	Numerous trade names and formulations are available.
MSMA + 2,4-D + MCPP + dicamba	PBI/Gordon	Quadmec
MCPP + 2,4-D + dicamba	PBI/Gordon	Southern Trimec
pronamide	Rhom-Haas	Kerb 50W
sethoxydim	BASF	Poast 1.5 lbs./gal.

[1]Numeral refers to percent or pounds of active ingredient.
[2]Diquat has a state label in Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee and Texas for winter annual weed control in dormant bermudagrass.

Warm-Season Turfgrass Tolerance to Post-Emergence Herbicides

Herbicide	Turfgrass			
	Bermuda-grass	Centipede-grass	St. Augustine-grass	Zoysia-grass
asulam	T*	NR-S	T	NR-I
atrazine	T (D)	T	T	I
bentazon	T	T	T	T
bromoxynil	T	T	T	T
2,4-D	T	S-I	S-I	T
2,4-D + dicamba	T	S-I	S-I	T
2,4-D + dichlorprop	T	S-I	S-I	T
2,4-D + mecoprop	T	S-I	S-I	T
2,4-D + mecoprop + dicamba	T	S-I	S-I	T
dicamba	T	S-I	S-I	T
diquat	T (D)	NR	NR	NR
DSMA, MSMA	T	S	S	I
glyphosate	T (D)	S	S	S
imazaquin	T	T	T	T
MCPP	T	S-I	S-I	T
metribuzin	T	NR-S	NR-S	NR-S
pronamide	T	NR	NR	NR-T
sethoxydim	NR-S	T	NR-S	NR-I

*Asulam is labelled for use only on 'Tifway' bermudagrass (419).
T = Tolerant at labelled rates; I = Intermediate tolerance, use at reduced label rates; S = Sensitive, do not use this herbicide; NR = Not registered for use on this turfgrass; D = Dormant applications only.

INSECT CONTROL
(WARM-SEASON)

Patricia Cobb, Ph.D., Auburn University

WARM-SEASON*	LATE WINTER (Mar.)	SPRING (Apr.-May)	SUMMER (June-Aug.)	FALL (Sept.-Oct.)
(SOUTHERN) CHINCH BUGS	In southern Fla. where resistance is a problem, use Pydrin, Pounce or Baygon a labeled for Fla. Replace susceptible turf with resistant or non-host varieties to provide natural control. In other areas, overwintered adults can be treated if they become active in March with diazinon (4 lbs. Al/acre), Dursban (1 lb. Al/acre) or Oftanol (2 lbs. Al/acre).	Application to prevent population build-up should be made by mid-April. Diazinon (4 lbs. Al/acre), Dursban (1 lb. Al/acre) or Oftanol (1-2 lb. Al/acre) provide control.	Control existing populations with Dursban (1 lb. Al/acre), diazinon (4 lbs. Al/acre) or Oftanol (1-2 lb. Al/acre) when damage signs appear. Southern chinch bugs are not as severe a problem in well irrigated turf.	Late summer applications usually make fall treatments unnecessary.
BILLBUGS	Treatment at this time can be done if adults are numerous and active. Use diazinon (4 lbs. Al/acre), Dursban (1 lb. Al/acre) or Oftanol (1-2 lb. Al/acre).	Treat when adults are active to prevent population buildup. Diazinon (4 lbs. Al/acre), Dursban (1 lb. Al/acre) provide control.	Treat billbug grubs with Oftanol (2 lbs. Al/acre) if not used in spring; diazinon (5 lbs. Al/acre) Turcam (2 lbs. Al/acre). Triumph 4E (restricted—home lawns only, not on "sandy" soils—2 lbs. Al/acre/season). Irrigate following application; also before if drought exists.	If necessary, treat with diazinon, Turcam, Oftanol or Dylox/Proxol as in summer.
GRUBS	Control with insecticides usually does not extend to new generation in July and August.	Infestations can be controlled during early April by spot or general treatment with Turcam (2 lbs. Al/acre), Proxol/Dylox (8 lbs. Al/acre) or diazinon (5 lbs. (Al/acre). Mocap granules (5 lbs. Al/acre) can be used on golf courses and sod farms. Triumph 4E on home lawns only, not on "sandy" soils (restricted use, up to 2 lbs. Al/acre/season) Sevin (1.5-2 lbs. Al/acre) or Orthene 75S (1.5-2 lbs. Al/acre, unirrigated after treatment) is effective on green June beetle grubs; Sevin (8 lbs. Al/acre) against other grubs. Irrigate after treatment. Milky spore can be applied in early April for Japanese beetle control in areas where the grubs are numerous.	New generation grubs present in late July or mid-August can be controlled with Proxol/Dylox (8 lbs. Al/acre); Turcam (2 lbs. Al/acre); Oftanol (2 lbs. Al/acre); diazinon (5 lbs. Al/acre); or Mocap granules (commercial turf only at 5 lbs. Al/acre). Triumph 4E (restricted use, homelawns, not on "sandy" soils, up to 2 lbs. Al/acre/season). Sevin SL (8 lbs. Al/acre) is effective aginst most grubs; Sevin SL (1.5-2 lbs. Al/acre) or Orthene 75S (1.5-2 lbs. Al/acre, unirrigated after treatment) is effective against green June beetle grubs. Water immediately after treatment, also before treatment during dry summers.	Treatments are effective as late as mid-October. Irrigate first if soil is dry, then again after treatment.
SOD WEBWORMS	Treatment is not appropriate at this time.	Use diazinon (4 lbs. Al/acre), Dylox/Proxol (3.5 lbs. Al/acre), Dursban (1 lb. Al/acre), or Sevin (6-8 lbs. Al/acre) in April when larvae are present. Warm season grasses outgrow moderate damage, so treatments can be delayed until summer.	Make application to infested turf when larvae are present or two weeks after peak moth fight. Use diazinon (4 lbs. Al/acre), Dursban (1 lb. Al/acre), Dylox/Proxol (3.5 lbs. Al/acre) or Sevin (6-8 lbs. Al/acre).	Treatment in early September may reduce population for next season.
CUTWORMS	Treatment usually is not appropriate at this time.	Use Dursban (1 lb. Al/acre), Dylox/Proxol (3-8 lbs. Al/acre) or Sevin (2-4 lbs. Al/acre). Apply late in the afternoon. Do not irrigate unless specified on label.	Although cutworms in the South are usually a spring problem, if summer infestations occur, treat as directed for spring.	Treatment usually is not necessary at this time.

* See accompanying text for details; always follow label directions.

continued

(WARM-SEASON, CONT.)

WARM-SEASON*	LATE WINTER (Mar.)	SPRING (Apr.-May)	SUMMER (June-Aug.)	FALL (Sept.-Oct.)
MOLE CRICKETS	Timing of treatments is critical and varies in different areas. In years when activity of overwintered mole crickets resumes early, treatment with Orthene 75S (3.5 Al/acre) or Turcam (2 lbs. Al/acre) is sometimes effective. Extensive treatment should be delayed until young nymphs are present. Rolling, fertilizing and irrigating warm-season grasses helps tunneled turf to recover.	Monitor infested turf weekly with soap flushes to determine presence and number of young nymphs. For short-residual treatment of overwintered crickets in April use Turcam (2 lbs. Al/acre, irrigate after treatment); or Orthene 75S (2-3 lbs. Al/acre) on wet turf, unirrigated after late afternoon treatment, provides quick knockdown. Baits are effective in central Florida in May when young nymphs are present. Begin monitoring damaged areas for newly-hatched nymphs.	For residual control, use Oftanol (2 lbs. Al/acre) or Mocap granules (10 lbs.) or Turcam (2.5 G, 2 lbs. Al/acre) on young nymphs. Irrigate immediately. Baits are effective from central Florida northward during summer. Baits available are Baygon 2% (½ lb./1000 sq. ft.); .5% Dursban (150 lbs./acre or two applications of 75 lbs./acre three weeks apart); malathion 2% (100 lbs./acre or two applications of 50 lbs./acre three weeks apart). Irrigate several hours before bait applications, and do not irrigate afterwards. Orthene 75S (2-3 lbs. Al/acre) can be used during summer, applied on irrigated turf late in the day and unwatered overnight. Triumph 4E (home lawns only, up to 2 lbs. Al/acre/season) can not be used on "sandy" soils.	Sprays of Turcam (2 lbs. Al/acre) or Orthene 75S can be used in areas where outbreaks occur and may have to be repeated several times. Mocap granules (10 lbs. Al/acre, commerical turf only) may be used, but don't use either more than once per season. Do not expect excellent late-season control if earlier measures have not been taken.
TWO-LINED SPITTLEBUG	Treatment is not appropriate at this time.	Treatment usually not necessary at this time. Dethatching turf when appropriate may reduce populations.	Mow, irrigate several hours or the day before treating infested turf. Spray with diazinon (4 lbs. Al/acre) or in less thatchy turf with Dursban (1 lb. Al/acre). Use at least 10 gal. water/1000 sq. ft.	Re-treatment is usually unnecessary. Treat infested areas in September if necessary as described for summer.
FALL ARMYWORM	Treatment is not appropriate at this time.	Poulations usually do not develop until summer.	Treatmnts are most effective in early morning or late afternoon. Use diazinon (4 lbs. Al/acre), Dursban (1 lb. Al/acre), or Proxol/Dylox (1-3 lbs. Al/acre).	Apply as directed for summer. Fall armyworms may be a greater problem in Sept.-Oct. than earlier.
FIRE ANTS	Treatments are less effective when soil temperatures are low.	Area treatments when new mounds being established in heavily infested areas with Amdro bait (1.5 lbs. bait/acre), Pro-Drone bait (.88 lb. bait/acre), Logic bait (1-1.5 lbs. bait/acre) Affirm bait (1 lb. bait/acre) or Oftanol (.05 lb. Al/1000 sq. ft.) are effective. Mound treatments in less infested areas include various diazinon or Dursban formulations; Orthene 75S dust (2 tsp./mound); or MC-96 mound fumigant (2 fl. oz./mound).	Treat mounds as they appear with various formulations of diazinon or Dursban; Orthene 75S dust (2 tsp./mound) or MC-96 (2 fl. oz./mound).	Apply controls to mounds or areas early in the morning or late in the day, as described for spring and summer. Area treatments with baits may be done in heavily-infested areas. Irrigate dry areas or wait until rain before treating if drought conditions exist.
SCALE INSECTS	Treatment is not effective.	Chemical control for gound pearls is not effective at any time of year. Proper fertilization, disease controls and adequate irrigation is the best defense.	To control Rhodegrass scale, apply diazinon (5 fl. oz./1000 sq. ft./25 gal. plus wetting agent). Retreatment is usually necessary.	Treat as directed with diaznon for summer.

* See accompanying text for details; always follow label directions.

(COOL-SEASON)

Harry D. Niemczyk, Ph.D., Ohio Agricultural Research & Development Center

COOL SEASON*	LATE WINTER (March)	SPRING (April-May)	SUMMER (June-Aug.)	FALL (Sept.-Oct.)
CHINCH BUGS	When summer damage is expected, preventative application of liquid or granular Dursban (1 lb. AI/acre) Triumph† (1 lb. AI/acre) or Oftanol (2 lb. AI/acre) may be used as soon as the insects become active.	Preventative applications of insecticides should be completed by the first week in May.	Treat before injury is severe with Dursban (1 lb. AI/acre), diazinon (2.5-5.5 lb. AI/acre), Triumph† (1 lb. AI/acre), Sevin (6-8 lbs. AI/acre) or other labeled insecticides.	Treat if necessary, but generally, infestation levels are not high enough to warrant using insecticides.
BILLBUGS	Same as for chinch bugs.	Same as for chinch bugs.	Treat infestations at same rates as grubs with diazinon, Turcam, Proxol or Sevin. Irrigate following application.	Treatment is usually not appropriate at this time.
GRUBS	Application of Oftanol (2 lb. AI/acre) during March may provide control of overwintered grubs. This may not provide control into late summer.	A single application of Oftanol (2 lb. AI/acre) made in April may control overwintered grubs. Can also be controlled in May by spot or general treatment with Triumph† (2 lb. AI/acre) Turcam (4 lb. AI/acre) or Sevin (8 lb. AI/acre). Golf course superintendents can use Mocap (5 lb. AI/acre) or Sevin (6-8 lb. AI/acre) to control green June beetle. Irrigate with application.	Existing infestations found in July or Aug. may be treated with Triumph†, Proxol, Turcam, Oftanol, Sevin or Mocap (commercial turf only) at rates used in spring. Treat green June beetle with Sevin (6-8 lb. AI/acre).	Treatment can be made as late as mid-September. Irrigate first if thatch or soil is dry.
SOD WEBWORMS	Treatment is not appropriate at this time.	When necessary, apply diazinon (5 lb. AI/acre) Triumph† (1 lb. AI/acre) or Proxol (6-8 lb. AI/acre).	Make application when larvae are present or two weeks after peak moth flight. Use Dursban (1 lb. AI/acre), Trimph† (1 lb. AI/acre), diazinon (5 lbs. AI/acre), Sevin (6-8 lbs. AI/acre) or Proxol (6-8 lb. AI/acre).	Larvae are small and cause little damage at this time. Treatment in September reduces population for next spring.
GREENBUGS	Treatment is not appropriate at this time.	Aphid numbers are too low to detect.	Use Orthene (1 lb. AI/acre) or Dursban (1 lb. AI/acre) or diazinon (2.5 lb. AI/acre).	Severe infestations may occur as late as December. Use the same insecticides as in the summer.
BLACK TURFGRASS ATAENIUS	An application of Oftanol (2 lb. AI/acre) in March may prevent summer infestations of larvae, but it's best to wait until April.	Application of Oftanol (2 lbs. AI/acre) during April or May prevents larval infestations during summer. Diazinon (5-6 lbs. AI/acre) applied to fairways in April also prevents infestations.	If preventative applications were not made, spot or generally treat with Proxol (8 lbs. AI/acre), Turcam (2-4 lbs. AI/acre), Sevin (8 lbs. AI/acre) or Mocap (5 lbs. AI/acre), as needed.	Undeveloped larvae die with frost.
CUTWORMS	Treatment is not appropriate at this time.	The insecticides effective against sod webworm are also effective against cutworms. Apply late in the afternoon. Do not irrigate following liquid applications unless specified on label.	Use Dursban (1 lb. AI/acre), Triumph† (1 lb. AI/acre), Proxol (8 lbs. AI/acre) or Sevin (6-8 lbs. AI/acre). Do not irrigate following liquid applications unless specified on label.	Same as for summer.
COVER MITES	Treatment is not appropriate at this time.	Liquid diazinon (2.5 lb. AI/acre) or Dursban (1 lb. AI/acre) may be used.	Treatment usually is not necessary.	Treat as needed with liquid diazinon (2.5 lbs. AI/acre) or Dursban (1 lb. AI/acre).
WINTER GRAIN MITE	If needed, use spring treatment.	If treatment is necessary, use liquid diazinon (2-3 lbs. AI/acre) or Dursban (1 lb. AI/acre). Avoid repeated use of Sevin.	Treatment is not appropriate, since mite is in egg stage.	Treatment is not appropriate since mite is in egg stage.

† For use only by commercial lawn pest control personnel. A maximum of one application per year is permitted for the 2 lb. AI/acre rate. A maximum of two applications per year at least 60 days apart is permitted for the 1 lb. AI/acre rate.
*See accompanying text for details; always follow label directions.

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DISEASE CONTROL
(WARM-SEASON)

Robert Haygood, Ph.D. and Walker Miller, Ph.D.

Trade Names for the Common Turf Fungicides

Common Name	Trade Name*
anilazine	Dyrene
benomyl	Tersan 1991, Benlate
chloroneb	Terraneb SP
chlorothalonil	Daconil 2787
etridiazole	Koban, Terrazole
fenarimol	Rubigan
iprodione	Chipco 26019
maneb	Dithane M-22 Special
mancozeb	Fore, Tersan LSR, Dithane M-45, Manzate 200 Flowable, Penncozeb
metalaxyl	Subdue
PCNB	Terraclor, Turfcide
propiconazole	Banner
propamocarb	Banol
thiophanate	Cleary's 3336
thiophanate-methyl	Fungo 50
triadimefon	Bayleton
vinclozolin	Vorlan

*The mention of a product does not constitute a recommendation or an endorsement, and discrimination by the Clemson University Cooperative Extension Service is not implied by the exclusion of any comparable product. Each specific label is the final authority on application rates and uses.

Turfgrass Disease Control

Read and follow label directions closely

Fungicide*	Product Rate/1,000 sq ft	Fungicide*	Product Rate/1,000 sq ft
Brown Patch			
anilazine 50WP	4-8 oz	iprodione 50WP	1.5-2 oz
benomyl 50WP	2 oz	maneb 80WP	3-8 oz
chlorothalonil 75WP	2-8 oz	mancozeb 37%	5-14 fl oz
chlorothalonil 29.6%	8-12 fl oz	mancozeb 80WP	4 oz
chlorothalonil 40.4%	3-11 fl oz	PCNB 75WP	3-16 oz
triademefon 25WP	1-2 oz	10G	2-7.5 lb
propiconazole	1-2 fl oz	thiophanate 50WP	1-2 oz
fenarimol 50WP	.4-.8 oz	thiophante-methyl 50WP	2 oz
Dollar Spot			
anilazine 50WP	4-8 oz	fenarimol 50WP	.2-.4 oz
benomyl 50WP	1 oz	iprodione 50WP	1.5-2 oz
chlorothalonil 75WP	2-8 oz	maneb 80WP	6-8 oz
chlorothalonil 29.6%	8-12 fl oz	mancozeb 37%	10-14 fl oz
chlorothalonil 40.4%	3-11 fl oz	mancozeb 80WP	6-8 oz
triadimefon 25WP	1-2 oz	propiconazole	1 fl oz
vinclozolin 50WP	2 oz	thiophanate 50WP	1-2 oz
		thiophanate-methyl 50WP	1-2 oz
Melting out, Helminthosporium Leaf Spot			
anilazine 50WP	4-6 oz	iprodione 50WP	1.5-2 oz
chlorothalonil 75WP	2-8 oz	maneb 80WP	3-8 oz
chlorothalonil 29.6%	8-12 fl oz	mancozeb 80WP	4 oz
chlorothalonil 40.4%	3-11 fl oz	mancozeb 37%	5-14 fl oz
Pythium Blight			
chloroneb 65WP	4 oz	metalaxyl 2E	1-2 fl oz
etridiazole 30WP	2-8 oz	propamocarb 6E	1.33-4 fl oz

*Current recommendations of Clemson University Cooperative Extension Service. The mention of a product is not an endorsement, and discrimination by the Clemson University Cooperative Extension Service is not implied by the exclusion of any comparable product.
Each specific label is the final authority on application rates and uses.

continued

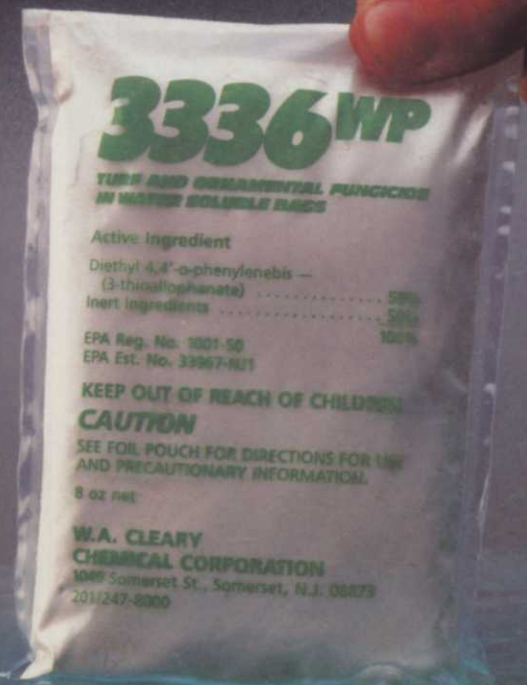
Turfgrass Disease Control (Cont.)

Read and follow label directions closely

Fungicide*	Product Rate/1,000 sq ft	Fungicide*	Product Rate/1,000 sq ft
Rust			
anilazine 50WP	4-8 oz	maneb 80WP	3-8 oz
propiconazole	1-2 fl oz	mancoxeb 37%	5-7 fl oz
triadimefon 25WP	1-2 oz	mancozeb 80WP	4 oz
Fairy Ring			
Vapam *see label for detailed instructions*			
Powdery Mildew			
triadimefon 25WP	1-2 oz	propiconazole	1-2 fl oz
Gray Leaf Spot			
chlorothalonil 75WP	2-8 oz		
chlorothalonil 29.6%	8-12 fl oz		
chlorothalonil 40.4%	3-11 fl oz		
Slime Mold			
None recommended. Easily controlled by cultural methods.			
Spring Dead Spot			
fenarimol 50w	1-2 oz	propiconazole (calif only)	1-2 fl oz
St. Augustine Downy Mildew			
metalaxyl	see label		
Anthracnose			
propiconazole	1-2 oz	trindimefon 25WP	2 oz

*Current recommendations of Clemson University Cooperative Extension Service. The mention of a product is not an endorsement, and discrimination by the Clemson University Cooperative Extension Service is not implied by the exclusion of any comparable product.
Each specific label is the final authority on application rates and uses.

50 Years of Experience in Every Bag!



NOW — 3336 IN WATER SOLUBLE BAGS

In 1953 W.A. Cleary Chemical Corporation was among the first in the industry to develop and distribute fungicides in WATER SOLUBLE BAGS. Now, 33 years later Cleary's 3336 Turf and Ornamental Fungicide is available in this convenient, safe, cost-effective package.

SAFE — NO OPERATOR EXPOSURE

The new WATER SOLUBLE BAGS are safe and easy to use — operators risk no exposure to chemical fumes or residue. Because the bags dissolve completely when submerged in water, there are no clogged screens or nozzles to worry about and no containers to dispose of.

CONVENIENT — EASY TO USE

Four 8-ounce bags are enclosed in a foil package — creating a protective barrier against moisture. Tear open the foil package and drop pre-measured bags in water according to the instructions. It's as easy as that — no mess, no exposure, no disposal.

ECONOMICAL

3336 is competitively priced (even in water soluble bags) and continues to be as economical as other systemic fungicides.

CONTROL OF MOST MAJOR DISEASES IN ONE BAG

3336 has been used successfully by golf course managers, turf and ornamental lawn maintenance professionals for years for the treatment and prevention of diseases. One bag is capable of controlling turf and ornamental diseases such as Brown Patch, Red Thread, Fusarium roseum, Stripe Smut, Copper Spot, Dollar Spot, Anthracnose and many more.

For additional information, see your local distributor or contact:

W-A CLEARY CHEMICAL CORPORATION

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Toll Free Numbers:
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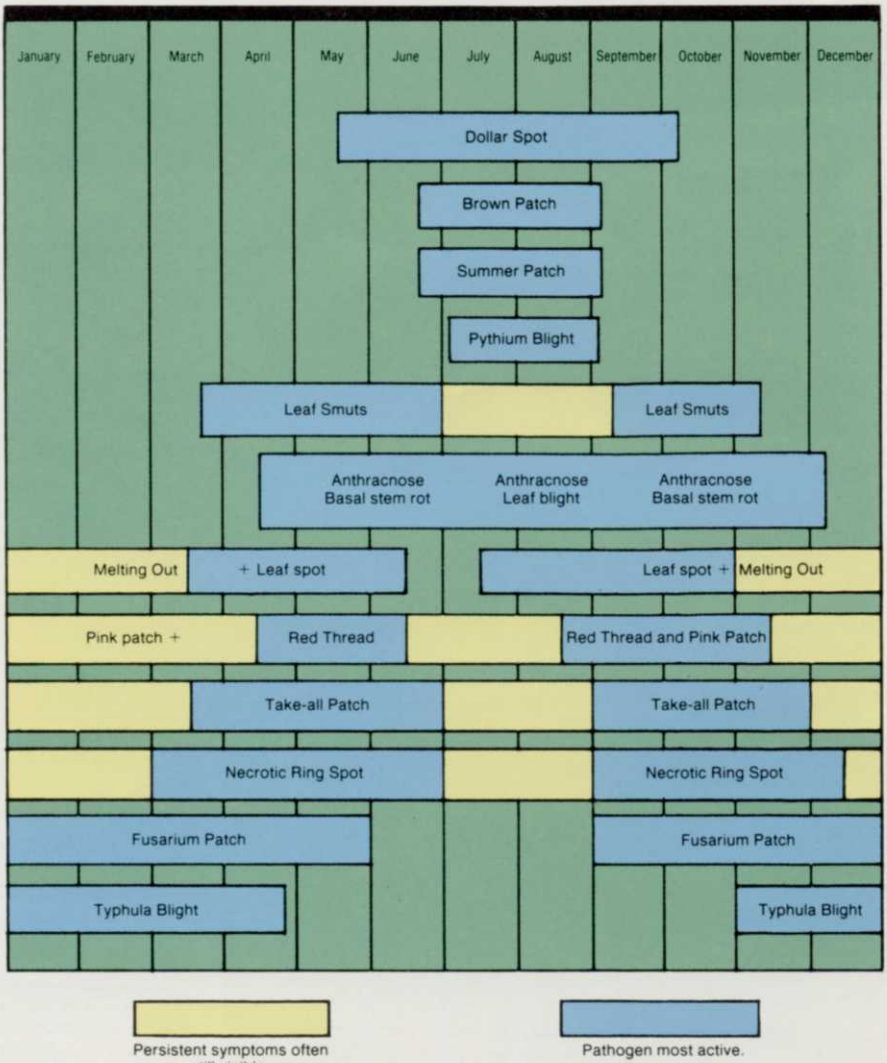
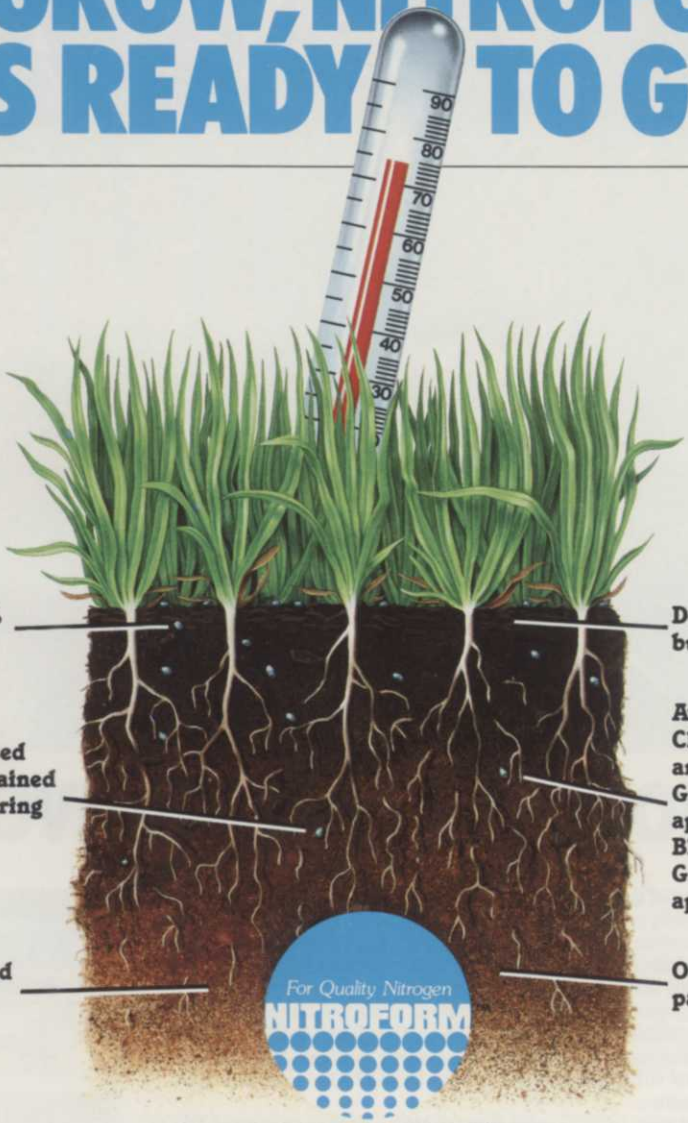
(COOL-SEASON)

Common Diseases of Cool-Season Turf



WHEN TURF IS READY TO GROW, NITROFORM® IS READY TO GO



Consistent 38% nitrogen

Nitrogen released slowly for sustained turf feeding during active growth periods

Nonburning and nonleaching

Decreased thatch build-up

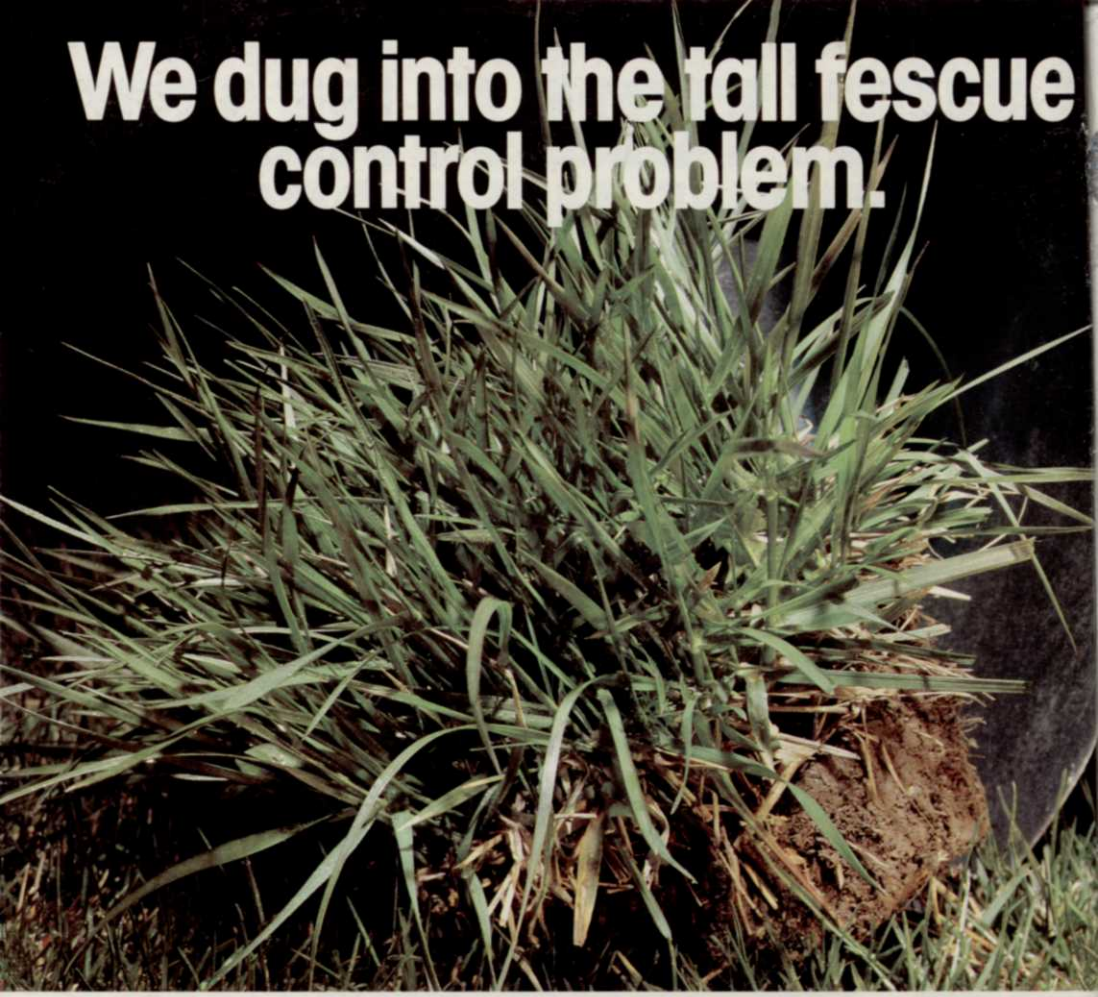
Available in Blue Chip®, Gray Chip™ and new Blue Granular™ for dry application; Powder Blue® and Powder Gray™ for spray application.

Odorless and pathogenfree

Always look for the NITROFORM® logo.
It's your assurance of high-quality nitrogen.

NOR-AM
NOR-AM CHEMICAL COMPANY
3509 Silverside Road, P.O. Box 7495, Wilmington, DE 19803

We dug into the tall fescue control problem.



So now you don't have to.

Until now, getting rid of ugly clumps of tall fescue was no easy task. The weed had to either be physically removed by digging or chemically removed by spot treating with a non-selective herbicide that left unsightly brown patches for weeks.

LESCO TFC™ Herbicide changes all that. It's the first product to provide selective spot control of tall fescue in established Kentucky bluegrass, fine fescue, bentgrass, bahiagrass and bermudagrass turf. Active at a rate of just a few ounces per acre, the convenient water dispersible granule formulation exhibits both contact and residual soil activity. It slowly eliminates tall fescue, while allowing the desirable grass to fill in.

For tall fescue control without the digging, make LESCO TFC Herbicide part of your application program.

Order today. Contact your LESCO sales representative, visit the nearest LESCO Service Center or call us toll free.

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Always read and follow label instructions before using any chemical product.

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